

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: **Evans**

Serial No. **10/829,269**

Filed: **April 22, 2004**

For: **Cutting Anvil and Method**

§ Group Art Unit: **3724**

§

§ Examiner: **Lee, Laura Michelle**

§

§ Confirmation No.: **6459**

§

§ Attorney Docket No.: **03-1272**

§

**63759**

PATENT TRADEMARK OFFICE  
CUSTOMER NUMBER

**Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**

**REPLY BRIEF (37 C.F.R. 41.41)**

This Reply Brief is submitted in response to the Examiner's Answer mailed on September 17, 2010.

No fees are believed to be required to file a Reply Brief. If any fees are required, I authorize the Commissioner to charge these fees which may be required to Boeing Deposit Account No. 18-1730.

## **RESPONSE TO EXAMINER'S ANSWER**

In the Appeal Brief filed June 23, 2010, Appellant contended, in part, that neither *Bell* nor *Gharst* nor *Mosiewicz* nor *Jung* nor *Hreha* nor their combination teaches or suggests the claim 1 limitation “a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation.”

In responding to Appellant's arguments, the Examiner asserts on pages 11-12 of the Examiner's Answer filed September 17, 2010:

[t]he claim limitations have been set forth that it can be interpreted that it is solely the material properties of the backed ply material that allow for the separation between the ply and backing due to the material bonding. In setting forth this interpretation, that given a superficial bonding of the two materials, such that there is puckering between them, such that there could be a diverging of the materials over the groove. In this construction, the prior art would structurally anticipate the claim language and be capable of performing the intended function of cutting the ply without cutting the backing.

In the above statement, the Examiner suggests that if the backing and the ply of the backed ply material was “superficially” bonded such that there is a puckering between them, there could be a diverging of the materials over the groove. Appellant respectfully submits that this assertion is pure supposition on the part of the Examiner and is unsupported by any evidence provided by the Examiner. In fact, Appellant submits that the ply and the backing of the backed ply material described by the Examiner could diverge at any time, including prior to a cutting operation such that the backing may not properly protect the ply. In the present invention, on the other hand, and as recited in claim 1, the groove provides support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting

profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation.

As pointed out on pages 15 and 16 of the Appeal Brief filed June 23, 2010, the present invention uses synergy from ultrasonic cutting physics and cutting groove geometry to allow the ultrasonic cutting blade to cut the ply without cutting the backing. Specifically, the present invention uses the physics of the ultrasonic cutting process (high frequency oscillating stylus type cutter) in conjunction with the geometry of the groove so that the relatively more rigid ply is kept taut and cannot resist the blade movement and deflect into the groove, and is thus cut by the blade, while the more flexible backing is able to deflect away from the blade into the groove, and not be cut.

For the above reasons , as well as for the reasons set forth in the Appeal Brief filed June 23, 2010, Appellant respectfully submits that neither *Bell* nor *Gharst* nor *Mosiewicz* nor *Jung* nor *Hreha* nor their combination teaches or suggests the claim 1 limitation “a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation”, and that claim 1 patentably distinguishes over the cited art for at least this reason.

In responding to Appellant’s arguments that dependent claim 25 patentably distinguishes over the cited art in its own right as well as by virtue of its dependency, the Examiner states on pages 14 and 15 of the Examiner’s Answer, that the claim does not impart any significant meaning because it recites that “the depth of the groove is a function of an unknown, unclaimed element.” The Examiner further states that the groove established by the combination of references could be any depth and still anticipate the claim and that the backed ply material could be any thickness and of any material characteristics and the groove could still be said to be a function of these properties. Appellant respectfully disagrees.

Claim 25 specifically recites that the groove “has a predetermined depth, the predetermined depth being a function of a thickness and material characteristics of the backed ply material.” The predetermined depth recited in claim 25 is not a function of an “unknown, unclaimed element” but is positively claimed as being a function of a thickness of the backed ply material and of material characteristics of the backed ply material. The Examiner has not shown that any of the cited references, considered alone or in combination, discloses a groove that has a predetermined depth that is a function of a thickness and material characteristics of the backed ply material or any other material to be cut, and the Examiner has not established a *prima facie* case of obviousness in rejecting claim 25.

Claim 25, accordingly, patentably distinguishes over the cited art in its own right as well as by virtue of its dependency.

### **CONCLUSION**

For the above reasons and for the reasons set forth in detail in the Appeal Brief filed June 23, 2010, Appellant respectfully submits that the Examiner has failed to state valid rejections against any of the claims and requests that the Board of Patent Appeals and Interferences reverse the rejections.

DATED: October 18, 2010

/Gerald H. Glanzman/

Gerald H. Glanzman  
Reg. No. 25,035  
Yee & Associates, P.C.  
P.O. Box 802333  
Dallas, TX 75380  
(972) 385-8777  
Attorney for Applicant